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EXAMINER	
RYMAN, DANIEL J	

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/680,278	MIYAMOTO, YUKIE	
	Examiner	Art Unit	
	Daniel J. Ryman	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 October 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4-6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: ref. 211 (see Fig. 1 and page 7, lines 17-18). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because it exceeds 150 words in length. Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities: on page 5, line 29 "where is a desired constant" should specify what is the desired constant (i.e. "where ____ is a desired constant").

Appropriate correction is required.

Claim Objections

4. Claim 3 is objected to because of the following informalities: in line 21 "said the calculation" should be "said calculation". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 6 and 10 the phrase "where is a desired constant" does not details what the desired constant is. Therefore, Applicant should replace "where is a desired constant" with "where _____ is a desired constant" where the blank is filled in. Since this error also occurred in the specification, Examiner is unsure of exact metes and bounds of the claim. Therefore, Examiner will not examine claims 6 and 10 for the purposes of prior art rejections.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundelin et al (USPN 6,144,861) in view of Douzono et al (USPN 5,574,983).

9. Regarding claim 1, Sundelin discloses a transmit power control method in a CDMA mobile communication system comprising: a checking step of checking whether one or more base transceiver stations (BTSs) are connected (col. 5, line 60-col. 6, line 25); a calculating step of, when a result of the checking step shows that two or more BTSs are connected, selecting CH receive SIRS (Signal to Interference Ratios) corresponding to the connected BTSs, and making a calculation by using the selected values (Fig. 3; col. 2, lines 29-47; col. 3, lines 23-35; col. 5, lines 45-49; and col. 6, lines 59-64) where "calculating" is a broad term which encompasses any data manipulation including checking to see if the SIR is below a threshold; a reference value

changing step of changing a value of a reference value Sref (col. 6, lines 59-64); an upper limit setting step of setting the reference value Sref to an upper limit (maximum value) (col. 2, lines 29-47); and a reporting step of reporting the changed reference value Sref to all the connected BTSs in each of the steps (Fig. 3; col. 2, lines 29-47; col. 3, lines 23-35; col. 5, lines 45-49; and col. 6, lines 59-64) where it is implicit that Sundelin reports the reference value to all the connected BTS since the RNC computes the reference value and the BTS uses the value. Sundelin does not expressly disclose a reference value changing step of changing a value of a reference value Sref according to a result of calculation; however, Sundelin does disclose a reference value changing step of changing a value of a reference value Sref (Fig. 3; col. 2, lines 29-47; and col. 6, lines 59-64). Sundelin also discloses that the number of base stations affects the power control in the system (col. 2, line 48-col. 3, line 60). Douzono teaches, in a multiple base station system for performing power control, changing a reference value according to the number of base stations in the system (col. 4, lines 5-16; col. 6, lines 32-41; and col. 9, lines 16-21) in order to increase the capacity of the system (col. 2, lines13-42). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have a reference value changing step of changing a value of a reference value Sref according to a result of calculation in order to increase the capacity of the system. Sundelin also does not expressly disclose an upper limit setting step of, when the result of the checking step shows that only one BTS is connected, setting the reference value Sref to an upper limit; however, Sundelin does disclose that the reference value can be set to an upper limit (col. 2, lines 29-47). Douzono also teaches that the Sref should be set higher when there is only a single BTS in the system compared to when there are multiple BTS in the system (col. 8, lines 24-30 and col. 10, lines 25-36) in order to ensure

proper reception while allowing for the maximum number of users in a system (col. 2, lines 13-42) through lower interference levels due to transmission power. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have an upper limit setting step of, when the result of the checking step shows that only one BTS is connected, setting the reference value Sref to an upper limit in order to ensure proper reception while allowing for the maximum number of users in a system. Sundelin does not expressly disclose that it is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs. Douzono teaches, in a multiple base station system for performing power control, that it is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs (col. 8, lines 24-30 and col. 10, lines 25-36) such that proper reception is ensured while allowing for the maximum number of users in a system (col. 2, lines 13-42). It would have been obvious to one of ordinary skill in the art at the time of the invention that it is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs such that proper reception is ensured while allowing for the maximum number of users in a system.

10. Regarding claim 2, referring to claim 1, Sundelin in view of Douzono discloses that the CH receive SIR is any one of a Perch CH receive SIR and a communication CH receive SIR for each of the connected BTSs (Sundelin: col. 5, lines 50-65).

11. Claims 3-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundelin et al (USPN 6,144,861) in view of Douzono et al (USPN 5,574,983) in further view of Chheda et al (USPN 6,515,975).

12. Regarding claim 3, Sundelin discloses a transmit power control method in a CDMA mobile communication system comprising: a checking step of checking whether one or more base transceiver stations (BTSs) are connected (col. 5, line 60-col. 6, line 25); a calculating step of, when a result of the checking step shows that two or more BTSs are connected, selecting CH receive SIRS (Signal to Interference Ratios) corresponding to the connected BTSs, and making a calculation by using the selected values (Fig. 3; col. 2, lines 29-47; col. 3, lines 23-35; col. 5, lines 45-49; and col. 6, lines 59-64) where "calculating" is a broad term which encompasses any data manipulation including checking to see if the SIR is below a threshold; a reference value changing step of changing a value of a reference value Sref (col. 6, lines 59-64); an upper limit setting step of setting the reference value Sref to an upper limit (maximum value) (col. 2, lines 29-47); a reporting step of reporting the changed reference value Sref to all the connected BTSs in each of the steps (Fig. 3; col. 2, lines 29-47; col. 3, lines 23-35; col. 5, lines 45-49; and col. 6, lines 59-64) where it is implicit that Sundelin reports the reference value to all the connected BTS since the RNC computes the reference value and the BTS uses the value; said CH receive SIR is any one of a Perch CH receive SIR and a communication CH receive SIR for each of the connected BTSs (col. 5, lines 50-65). Sundelin does not expressly disclose a reference value changing step of changing a value of a reference value Sref according to a result of calculation; however, Sundelin does disclose a reference value changing step of changing a value of a reference value Sref (Fig. 3; col. 2, lines 29-47; and col. 6, lines 59-64). Sundelin also discloses

that the number of base stations affects the power control in the system (col. 2, line 48-col. 3, line 60). Douzono teaches, in a multiple base station system for performing power control, changing a reference value according to the number of base stations in the system (col. 4, lines 5-16; col. 6, lines 32-41; and col. 9, lines 16-21) in order to increase the capacity of the system (col. 2, lines13-42). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have a reference value changing step of changing a value of a reference value Sref according to a result of calculation in order to increase the capacity of the system. Sundelin also does not expressly disclose an upper limit setting step of, when the result of the checking step shows that only one BTS is connected, setting the reference value Sref to an upper limit; however, Sundelin does disclose that the reference value can be set to an upper limit (col. 2, lines 29-47). Douzono also teaches that the Sref should be set higher when there is only a single BTS in the system compared to when there are multiple BTS in the system (col. 8, lines 24-30 and col. 10, lines 25-36) in order to ensure proper reception while allowing for the maximum number of users in a system (col. 2, lines 13-42) through lower interference levels due to transmission power. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have an upper limit setting step of, when the result of the checking step shows that only one BTS is connected, setting the reference value Sref to an upper limit in order to ensure proper reception while allowing for the maximum number of users in a system. Sundelin does not expressly disclose that it is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs. Douzono teaches, in a multiple base station system for performing power control, that it is possible to decide the reference value Sref in response to a variation in

selection/synthesis gain due to an increase or a decrease of the number of connected BTSs (col. 8, lines 24-30 and col. 10, lines 25-36) such that proper reception is ensured while allowing for the maximum number of users in a system (col. 2, lines 13-42). It would have been obvious to one of ordinary skill in the art at the time of the invention that it is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs such that proper reception is ensured while allowing for the maximum number of users in a system. Sundelin in view of Dousono does not expressly disclose that said the calculation made by using the selected value in the calculating step comprises: any one of the step of selecting the maximum value Smax and the second largest value Sscd from among the CH receive SIRS corresponding to the connected BTSs and the step of selecting the maximum value Smax from among the CH receive SIRS corresponding to the connected BTSs; however, Sundelin in view of Dousono does disclose that the BTS with the maximum SIR (Smax) should have its power increased while every other BTS should have its power decreased (Sundelin: col. 2, line 48-col. 3, line 60). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to find the maximum value Smax from among the CH in order to determine how the power adjustments should be made in the system. Sundelin in view of Dousono does not expressly disclose any one of the step of calculating a difference (X) between the Smax and the Sscd and the step of calculating the number (Nbts) of BTSs in which a difference between the Smax and the receive SIR becomes a predetermined value T2 or less; however, Sundelin in view of Dousono does disclose that the BTS with the maximum SIR (Smax) should have its power increased while every other BTS should have its power decreased (Sundelin: col. 2, line 48-col. 3, line 60). Sundelin in view of Dousono also

discloses that SIR is a useful measure (Sundelin: col. 7, lines 16-43). Chheda teaches, in a system for performing power control, determining the number of BTS in which a difference between the maximum transmit power and the receive transmit power becomes a predetermined value T2 or less (Fig. 2 and col. 5, lines 22-33) where it is implicit that this is done in order to determine which pair of BTS differ the most. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have any one of the step of calculating a difference (X) between the Smax and the Sscd and the step of calculating the number (Nbts) of BTSs in which a difference between the Smax and the receive SIR becomes a predetermined value T2 or less in order to determine the amount by which the dominant BTS dominates the other BTSs such that the power control can be adjusted accordingly.

13. Regarding claim 4, referring to claim 3, Sundelin in view of Douzono in further view of Chheda suggests that, when the X is equal to a predetermined threshold value TI or more, it is decided that only a small gain can be obtained by selection/synthesis, thereby setting the reference value Sref to an upper limit irrespective of results of the steps. Sundelin in view of Douzono in further view of Chheda discloses that power control is needed when the number of BTS is greater than one in order to ensure that the dominant base station has its power controlled properly (Sundelin: col. 2, line 48-col. 3, line 60). Sundelin in view of Douzono in further view of Chheda also discloses that a single BTS should have a higher reference value than multiple base stations (Douzono: col. 8, lines 24-30 and col. 10, lines 25-36). Therefore, Sundelin in view of Douzono in further view of Chheda suggests that when one BTS dominates to a large extent over the others then the dominant BTS should be treated as a single BTS and therefore the reference value should be set to the maximum.

14. Regarding claim 5, referring to claim 3, Sundelin in view of Douzono in further view of Chheda suggests that, when the X is equal to a predetermined threshold value T1 or less, it is decided that a sufficient gain can be obtained by selection/synthesis, thereby setting the reference value Sref to a value according to the X (Sundelin: col. 2, line 48-col. 3, line 60 and Douzono: col. 8, lines 24-30 and col. 10, lines 25-36).

15. Regarding claim 7, Sundelin discloses a transmit power control method in a CDMA mobile communication system comprising: a checking step of checking whether one or more base transceiver stations (BTSs) are connected (col. 5, line 60-col. 6, line 25); a calculating step of, when a result of the checking step shows that two or more BTSs are connected, selecting CH receive SIRS (Signal to Interference Ratios) corresponding to the connected BTSs, and making a calculation by using the selected values (Fig. 3; col. 2, lines 29-47; col. 3, lines 23-35; col. 5, lines 45-49; and col. 6, lines 59-64) where "calculating" is a broad term which encompasses any data manipulation including checking to see if the SIR is below a threshold; a reference value changing step of changing a value of a reference value Sref (col. 6, lines 59-64); an upper limit setting step of setting the reference value Sref to an upper limit (maximum value) (col. 2, lines 29-47); a reporting step of reporting the changed reference value Sref to all the connected BTSs in each of the steps (Fig. 3; col. 2, lines 29-47; col. 3, lines 23-35; col. 5, lines 45-49; and col. 6, lines 59-64) where it is implicit that Sundelin reports the reference value to all the connected BTS since the RNC computes the reference value and the BTS uses the value; said CH receive SIR is any one of a Perch CH receive SIR and a communication CH receive SIR for each of the connected BTSs (col. 5, lines 50-65). Sundelin does not expressly disclose a reference value changing step of changing a value of a reference value Sref according to a result of calculation;

however, Sundelin does disclose a reference value changing step of changing a value of a reference value Sref (Fig. 3; col. 2, lines 29-47; and col. 6, lines 59-64). Sundelin also discloses that the number of base stations affects the power control in the system (col. 2, line 48-col. 3, line 60). Douzono teaches, in a multiple base station system for performing power control, changing a reference value according to the number of base stations in the system (col. 4, lines 5-16; col. 6, lines 32-41; and col. 9, lines 16-21) in order to increase the capacity of the system (col. 2, lines13-42). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have a reference value changing step of changing a value of a reference value Sref according to a result of calculation in order to increase the capacity of the system. Sundelin also does not expressly disclose an upper limit setting step of, when the result of the checking step shows that only one BTS is connected, setting the reference value Sref to an upper limit; however, Sundelin does disclose that the reference value can be set to an upper limit (col. 2, lines 29-47). Douzono also teaches that the Sref should be set higher when there is only a single BTS in the system compared to when there are multiple BTS in the system (col. 8, lines 24-30 and col. 10, lines 25-36) in order to ensure proper reception while allowing for the maximum number of users in a system (col. 2, lines 13-42) through lower interference levels due to transmission power. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have an upper limit setting step of, when the result of the checking step shows that only one BTS is connected, setting the reference value Sref to an upper limit in order to ensure proper reception while allowing for the maximum number of users in a system. Sundelin does not expressly disclose that it is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number

of connected BTSs. Douzono teaches, in a multiple base station system for performing power control, that it is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs (col. 8, lines 24-30 and col. 10, lines 25-36) such that proper reception is ensured while allowing for the maximum number of users in a system (col. 2, lines 13-42). It would have been obvious to one of ordinary skill in the art at the time of the invention that it is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs such that proper reception is ensured while allowing for the maximum number of users in a system. Sundelin in view of Dousono does not expressly disclose that said the calculation made by using the selected value in the calculating step comprises: any one of the step of selecting the maximum value Smax and the second largest value Sscd from among the CH receive SIRS corresponding to the connected BTSs and the step of selecting the maximum value Smax from among the CH receive SIRS corresponding to the connected BTSs; however, Sundelin in view of Dousono does disclose that the BTS with the maximum SIR (Smax) should have its power increased while every other BTS should have its power decreased (Sundelin: col. 2, line 48-col. 3, line 60). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to find the maximum value Smax from among the CH in order to determine how the power adjustments should be made in the system. Sundelin in view of Dousono does not expressly disclose any one of the step of calculating a difference (X) between the Smax and the Sscd and the step of calculating the number (Nbts) of BTSs in which a difference between the Smax and the receive SIR becomes a predetermined value T2 or less; however, Sundelin in view of Dousono does disclose that the BTS with the

maximum SIR (Smax) should have its power increased while every other BTS should have its power decreased (Sundelin: col. 2, line 48-col. 3, line 60). Sundelin in view of Dousono also discloses that SIR is a useful measure (Sundelin: col. 7, lines 16-43). Chheda teaches, in a system for performing power control, determining the number of BTS in which a difference between the maximum transmit power and the receive transmit power becomes a predetermined value T2 or less (Fig. 2 and col. 5, lines 22-33) where it is implicit that this is done in order to determine which pair of BTS differ the most. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have any one of the step of calculating a difference (X) between the Smax and the Sscd and the step of calculating the number (Nbts) of BTSs in which a difference between the Smax and the receive SIR becomes a predetermined value T2 or less in order to determine the amount by which the dominant BTS dominates the other BTSs such that the power control can be adjusted accordingly. Sundelin in view of Dousono in further view of Chheda suggests that the reference value changing step is any one of the step of changing the reference value Sref to a value according to the difference (X) and the step of changing the reference value Sref to a value according to the number (Nbts) (Sundelin: Fig. 3; col. 2, line 29-col. 3, line 60; and col. 6, lines 59-64 and Dousono: col. 4, lines 5-16; col. 6, lines 32-41; and col. 9, lines 16-21).

16. Regarding claim 8, referring to claim 7, Sundelin in view of Douzono in further view of Chheda suggests that, when the X is equal to a predetermined threshold value TI or more, it is decided that only a small gain can be obtained by selection/synthesis, thereby setting the reference value Sref to an upper limit irrespective of results of the steps. Sundelin in view of Douzono in further view of Chheda discloses that power control is needed when the number of

BTS is greater than one in order to ensure that the dominant base station has its power controlled properly (Sundelin: col. 2, line 48-col. 3, line 60). Sundelin in view of Douzono in further view of Chheda also discloses that a single BTS should have a higher reference value than multiple base stations (Douzono: col. 8, lines 24-30 and col. 10, lines 25-36). Therefore, Sundelin in view of Douzono in further view of Chheda suggests that when one BTS dominates to a large extent over the others then the dominant BTS should be treated as a single BTS and therefore the reference value should be set to the maximum.

17. Regarding claim 9, referring to claim 7, Sundelin in view of Douzono in further view of Chheda suggests that, when the X is equal to a predetermined threshold value T1 or less, it is decided that a sufficient gain can be obtained by selection/synthesis, thereby setting the reference value Sref to a value according to the X (Sundelin: col. 2, line 48-col. 3, line 60 and Douzono: col. 8, lines 24-30 and col. 10, lines 25-36).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
Art Unit 2665

DJR

Daniel J. Ryman

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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600